

PATENT SPECIFICATION

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PROVISIONAL SPECIFICATION

Improvements in or relating to Wound Clasps

We, NIKOLAUS BRAUN, of 26, Simon Meisterstrasse, Köln-Nippes, Germany, and MAX SAMUEL, of 50, Salierring, Köln, Germany, both German citizens; do hereby declare the nature of this invention to be as follows:—

In operations use is made to-day of so-called wound clasps for the purpose of holding together the edges of the wound during the healing, instead of the stitches formerly generally used. These consist as a rule of an arched metal strip which is bent round the edges of the wound, while in addition special pins mounted at the ends of the metal strips, which are bent over to form an eye, penetrate the edges of the wound on both sides and help the grip of the clasp. These wound clasps can only be used once as after use they are bent out of shape. There are in addition wound clasps made of spring wire hoops, which can certainly be used several times but owing to the fact that they can only grip very small surfaces they can only be used for special cases where it is a question of small incisions and narrow wounds. Both of the above-mentioned systems have always the considerable disadvantage that they cannot be opened wide enough, so that when they are removed from the wound there is a danger of the sharp pin points damaging the edges of the wound, tearing away the incrustations of the wound and thus delaying the healing, apart from the pain caused to the patient.

The invention relates to a wound clasp which eliminates all of the disadvantages of former clasps. This is achieved by a new form of construction of the clasps, the basic idea of which consists of having the two halves of the clasp joined together in such a way that they can be swung apart in the form of a tongue-like double lever. In this way it is immediately possible to adapt the clasp to any occurring thickness of the wound edges and to open the clasp wide when it is removed. The construction of the new clasp is simple, it is easy to handle and it is impossible for it to open by accident. It can be used indefinitely and it complies with all of the stipulations that a

surgeon can impose in respect of a wound clasp.

In the accompanying drawing the new wound clasp is depicted on an enlarged scale in two different forms of construction. The construction shown in Figs. 1—5 relates to a clasp with spring catch fastening. Fig. 1 shows a front-view of the clasp when not in use; Fig. 2 is a side-view, Fig. 3 is a view from above and Fig. 4 a view from below, while in Fig. 5 the clasp is shown in use. In Fig. 6 a pair of tweezers suitable for operating the clasp is shown in partial section. Figs. 7—9 show finally a second construction for this clasp, without special catch fastening.

As can be seen from Fig. 1, the wound clasp consists mainly of the two suitably bent double levers *a*, *b* and *c*, *d* which are made of suitable sheet metal. The levers can be as broad as desired to suit the purpose for which they are required and they are joined together on a pivot. The pivot joint is formed by reason of the fact that one of the double levers *c*, *d* possesses two lateral rectangular, bent over lugs *e* in the hole in which fit bolts *g* mounted on corresponding lugs *f* on the other double lever *a*, *b*. Both levers are made in the form of eyes *h* at their lower ends which grip the edges of the wound when the clasp is placed in position, while pins *i* stamped out of these eyes penetrate into the edges of the wound (Fig. 5). The left-hand double lever *a*, *b* possesses at the top end also two lateral lugs *k*, bent over vertically inwards, in the hole in which the solid catch *l*, fitted with teeth, is mounted in such a way that it can be swung over.

When the clasp is not in use the two double levers that are pivoted together assume the wide open position shown in Fig. 1. At the same time the two arched ends *d'* of the end *d* of the lever, which has a slot in its upper part to allow the passage of the catch *l* engage resiliently around the side lugs *k* of the other lever, whereupon the position of the two halves of the clasp shown in Fig. 1 is ensured when the clasp is not in use. The spring action is achieved owing to the loop-like

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formation of the upper lever ends *b* and *c*.

For the purpose of affixing the clasp it is gripped by means of both eyes *h* in the tweezers (Fig. 6). By pressing the tweezers together the lower levers *a* and *c* are brought nearer to each other, while the spring forked ends *d* are drawn away from the lugs *k*. The pins *i* pierce the edges of the wound and at the same time the projection *m* mounted on one arm of the tweezers presses the catch *l* over to the right, as can be seen from Fig. 5. One of the teeth of this catch engages in the slot of the lever end *d* and in this way firmly closes the wound clasp. The bandage applied over the clasp prevents the catch from being released by accident.

When removing the clasp the two loops *b* and *d* (Fig. 5) are gripped in the tweezers, whereupon the projection *n* or the other arm of the tweezers releases the catch *l* by lifting it up. By pressing together the tweezers the clasp is opened quite wide and assumes once again the position in Fig. 1. The pins are therefore drawn to the side far away from the wound, without it being possible for the latter to be touched, so that the patient feels nothing. After being boiled the clasp can immediately be used again.

The form shown in Figs. 7-9 is much simpler in construction. Here again the two halves of the clasp are in the form of double levers *o*, *p* and *q*, *r* which can be swung out around the pivot *s*.

On the pivot *s* is mounted a spiral spring *t* the free ends of which hold apart the two halves of the clasp at the top, thus pressing them together at the bottom. A projection *u* on the hinge lug of the left-hand half of the clasp has the effect that the clasp is only opened about as far as shown in Fig. 7. The upper ends of the two double levers are, as shown in Fig. 9, bent out in the shape of fingers. This wound clasp needs no catch fastening and can even be handled without tweezers particularly when being removed. When it is being placed in position it is preferably grasped with the tweezers at the top ends of the double levers and opened wide by pressure on the tweezers. When it has been brought over the edges of the wound the arms of the tweezers are allowed to recede slightly, whereupon the lower ends of the levers *o*, *q* firmly grip the edges of the wound and the pins penetrate the said edges owing to the pressure of the spring *t*. The clasp can be removed without difficulty with the thumb and forefinger. This clasp also can be used repeatedly; it is simple and cheap; can never become undone of its own accord, opens quite wide when being removed and also presents all of the advantages of the wound clasp described in the first place.

Dated this 4th day of June, 1935.

CHATWIN & COMPANY,
253, Gray's Inn Road, London, W.C. 1,
Patent Agents for the Applicants.

COMPLETE SPECIFICATION

Improvements in or relating to Wound Clasps

We, NIKOLAUS BRAUN, of 26, Simon Meisterstrasse, Köln-Nippes, Germany, and MAX SAMUEL, of 50, Salierring, Köln, Germany, both German citizens, do hereby declare the nature of this invention, and in what manner the same is to be performed, to be particularly described and ascertained, in and by the following statement:—

In operations use is made to-day of so-called wound clasps for the purpose of holding together the edges of the wound during the healing, instead of the stitches formerly generally used. These consist as a rule of an arched metal strip which is bent round the edges of the wound, while in additional special pins mounted at the ends of the metal strips, which are bent over to form an eye, penetrate the edges of the wound on both sides and help the grip of the clasp. These wound clasps can only be used once as after use they are bent out of shape.

There are in addition wound clasps made of spring wire hoops, which can certainly be used several times but owing to the fact that they can only grip very small surfaces they can only be used for special cases where it is a question of small incisions and narrow wounds. Both of the above-mentioned systems have always the considerable disadvantage that they cannot be opened wide enough, so that when they are removed from the wound there is a danger of the sharp pin points damaging the edges of the wound, tearing away the incrustations of the wound and thus delaying the healing, apart from the pain caused to the patient.

The invention relates to a wound clasp which eliminates all of the disadvantages of former clasps. This is achieved by a new form of construction of the clasps; the basic idea of which consists of having the two halves of the clasp joined together in such a way that they

can be swung apart in the form of a tong-like double lever. In this way it is immediately possible to adapt the clasp to any occurring thickness of the wound edges and to open the clasp wide when it is removed. The construction of the new clasp is simple, it is easy to handle and it is impossible for it to open by accident. It can be used indefinitely and it complies with all of the stipulations that a surgeon can impose in respect of a wound clasp.

In the drawing filed with the Provisional specification, the new wound clasp is depicted on an enlarged scale in two different forms of construction. The construction shown in Figs. 1—5 relates to a clasp with spring catch fastening.

Fig. 1 shows a front view of the clasp when not in use;

Fig. 2 is a side view.

Fig. 3 is a view from above, and

Fig. 4 a view from below, while in

Fig. 5 the clasp is shown in use.

In Fig. 6 a pair of tweezers suitable for operating the clasp is shown in partial section.

Figs. 7—9 show finally a second construction for this clasp, without special catch fastening.

As can be seen from Fig. 1, the wound clasp consists mainly of the two suitably bent double levers *a*, *b* and *c*, *d* which are made of suitable sheet metal. The levers can be as broad as desired to suit the purpose for which they are required and they are joined together on a pivot. The pivot joint is formed by reason of the fact that one of the double levers *c*, *d* possesses two lateral rectangular bent over lugs *e* in the hole in which fit bolts *g* mounted on corresponding lugs *f* on the other double lever *a*, *b*. Both levers are made in the form of eyes *h* at their lower ends which grip the edges of the wound when the clasp is placed in position, while pins *i* stamped out of these eyes penetrate into the edges of the wound (Fig. 5). The left-hand double lever *a*, *b* possesses at the top end also two lateral lugs *k*, bent over vertically inwards, in the hole in which the solid catch *l*, fitted with teeth, is mounted in such a way that it can be swung over.

When the clasp is not in use the two double levers that are pivoted together assume the wide open position shown in Fig. 1. At the same time the two arched ends *d'* of the end *d* of the lever, which has a slot in its upper part to allow the passage of the catch *l* engage resiliently around the side lugs *k* of the other lever, whereupon the position of the two halves of the clasp shown in Fig. 1 is ensured when the clasp is not in use.

The spring action is achieved owing to the loop-like formation of the upper lever ends *b* and *d*.

For the purpose of affixing the clasp it is gripped by means of both eyes *h* in the tweezers (Fig. 6). By pressing the tweezers together the lower levers *a* and *c* are brought nearer to each other, while the spring forked ends *d'* are drawn away from the lugs *k*. The pins *i* pierce the edges of the wound and at the same time the projection *m* mounted on one arm of the tweezers presses the catch *l* over to the right, as can be seen from Fig. 5. One of the teeth of this catch engages in the slot of the lever end *d* and in this way firmly closes the wound clasp. The bandage applied over the clasp prevents the catch from being released by accident.

When removing the clasp the two loops *b* and *d* (Fig. 5) are gripped in the tweezers, whereupon the projection *n* or the other arm of the tweezers releases the catch *l* by lifting it up. By pressing together the tweezers the clasp is opened quite wide and assumes once again the position in Fig. 1. The pins are therefore drawn to the side far away from the wound, without it being possible for the latter to be touched, so that the patient feels nothing. After being boiled the clasp can immediately be used again.

The form shown in Figs. 7—9 is much simpler in construction. Here again the two halves of the clasp are in the form of double levers *o*, *p* and *q*, *r* which can be swung out around the pivot *s*. On the pivot *s* is mounted a spiral spring *t* the free ends of which hold apart the two halves of the clasp at the top, thus pressing them together at the bottom. A projection *u* on the hinge lug of the left-hand half of the clasp has the effect that the clasp is only opened about as far as shown in Fig. 7. The upper ends of the two double levers are, as shown in Fig. 9, bent out in the shape of fingers. The jaw members *o* are made of two small strips of sheet metal, which, as shown in Fig. 8 have a recessed middle portion and are pivotally connected to each other. The wound clasp needs no catch fastening and can even be handled without tweezers particularly when being removed. When it is being placed in position it is preferably grasped with the tweezers at the top ends of the double levers and opened wide by pressure on the tweezers. When it has been brought over the edges of the wound the arms of the tweezers are allowed to recede slightly, whereupon the lower ends of the lever *o*, *p* firmly grip the edges of the wound and the pins penetrate the said

- edges owing to the pressure of the spring *t*. The clasp can be removed without difficulty with the thumb and forefinger. This clasp also can be used repeatedly; it is simple and cheap, can never become undone of its own accord, opens quite wide when being removed and also presents all of the advantages of the wound clasp described in the first place.
- 10 Having now particularly described and ascertained the nature of our said invention, and in what manner the same is to be performed, we declare that what we claim is:—
- 15 1. A wound clasp comprising two metal arms, having pins fitted at their ends, said arms gripping round the edges of the wound and the pins penetrating the edges of the wounds, a pivot for said
- 20 gripping arms, the said arms being adapted to swing out in the form of tong-like double levers, means being provided between the rear part of the double arms beyond the pivot to hold the gripping
- 25 ends in position.
2. Wound clasp in accordance with claim 1, characterised by the fact that a bolt (1) pivoted at the upper ends of one double lever (*a*, *b*) and fitted with teeth

engages in the top end of the other double lever (*c*, *d*) in accordance with the thickness of the edges of the wound in question, and locks the clasp, when the latter is being used.

3. Wound clasp in accordance with claim 2, characterised by the fact that the suitably bent over end of one double lever (*c*, *d*), when the clasp is not in use, grips resiliently around the hinge (*k*) of the other double lever (*a*, *b*) carrying the catch (*l*) and holds the clasp, when not in use, in the wide open position.

4. Wound clasp in accordance with claim 1, characterised by the fact that a spiral spring (*t*) mounted round the pivot (*s*) of both double levers (*a*, *p* and *q*, *r*) holds the clasp tight in its working position.

5. Wound clasp in accordance with claim 4, characterised by the fact that the upper ends (*p* and *r*) of the double levers are fitted with finger-shaped curves for the purpose of enabling the clasp to be held without the use of tweezers.

Dated this 2nd day of June, 1936.

CHATWIN & COMPANY,
253, Gray's Inn Road, London, W.C. 1,
Patent Agents for the Applicants.

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[This Drawing is a reproduction of the Original on a reduced scale.]

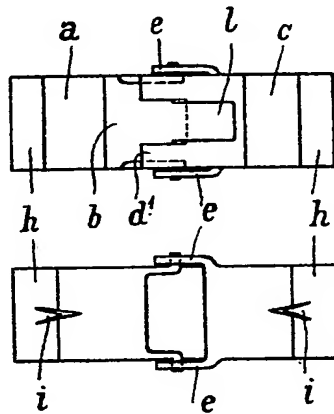
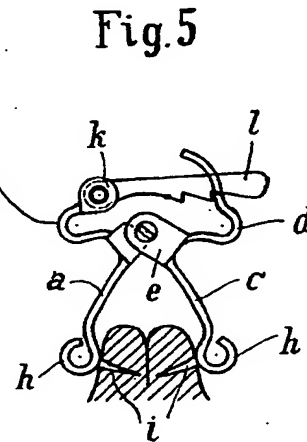
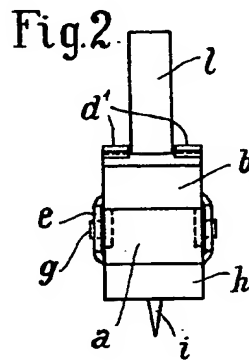
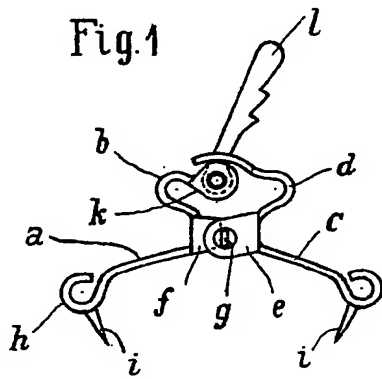


Fig. 3

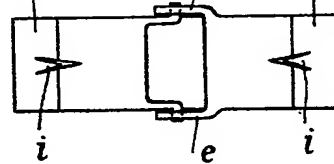


Fig. 4

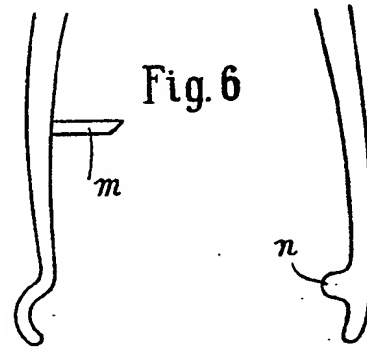


Fig. 6

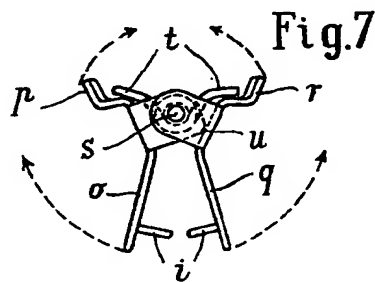


Fig. 7

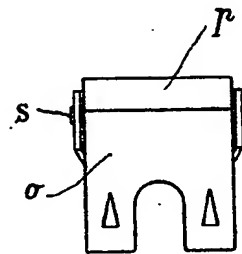


Fig. 8

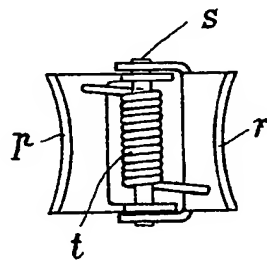


Fig. 9

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